SONY.

3-752-057-21 (1)

Video TV Recorder 8

GV-200

Operating Instructions

Before operating the unit, please read this manual thoroughly and retain it for future reference.

VIDEO WALKMAN

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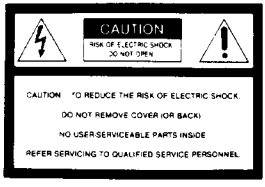
Owner's Record

The model and serial numbers are located on the bottom. Record the serial number in the space provided below. Refer to these numbers whenever you call upon your Sony dealer regarding this product.

Model No. GV-200 Serial No. ___ ——— ———

WARNING

To prevent fire or shock hazard, do not expose the unit to rain or moisture.


CAUTION
RISK OF ELECTRIC SHOCK DO NOT OPEN
CAUTION: TO REDUCE THE RISK OF ELECTRIC SHOCK, DO NOT REMOVE COVER (OR BACK). NO USER-SERVICEABLE PARTS INSIDE. REFER SERVICING TO QUALIFIED SERVICE PERSONNEL.

This symbol is intended to alert the user to the presence of uninsulated "dangerous voltage" within the product's enclosure that may be of sufficient magnitude to constitute a risk of electric shock to persons.

This symbol is intended to alert the user to the presence of important operating and maintenance (servicing) instructions in the literature accompanying the appliance.

INFORMATION

This equipment generates and uses radio frequency energy and if not installed and used properly, that is, in strict accordance with the manufacturer's instructions, may cause interference to radio and television reception. It has been type tested and found to comply with the limits for a Class B computing device in accordance with the specifications in Subpart J of Part 15 of FCC Rules, which are designed to provide reasonable protection against such interference in a residential installation. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

Reorient the receiving antenna
Relocate the equipment with respect to the receiver
Move the equipment away from the receiver
Plug the equipment into a different outlet so that equipment and receiver are on different branch circuits.

If necessary, the user should consult the dealer or an experienced radio/television technician for additional suggestions. The user may find the following booklet prepared by the Federal Communications Commission helpful:

"How to Identify and Resolve Radio-TV Interference Problems". This booklet is available from the U.S. Government Printing Office, Washington, DC 20402, Stock No. 004-000-00345-4.

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Features

For details, refer to the pages indicated in ●.

With the Sony GV-200 video TV recorder, you can;
— view playback picture of 8 mm video tapes. ●
— view TV programs. ●
— record TV programs. ●

You can also connect the recorder to another equipment.

Compact and lightweight design allows you outdoor use.

— Timer recording ●
— Sleep timer turns the power off automatically ●
— Screen can be cleared when it is not necessary: e.g. when viewing pictures with another TV/monitor which is connected to this unit or when listening only to the sound. ●
— Crystal-clear still/slow and picture search on LCD ●
— Convenient four power sources ●
— Capable of receiving CATV channels ●
— High quality 4 inches crystal panel

This unit uses 8 mm video format cassettes. It records in the SP mode (approximately 1.43 cm/second) and the LP mode (approximately 0.72 cm/second) and can play back in the SP mode and LP mode.
The quality of the playback picture in the LP mode, however, will not be as good as that in the SP mode.

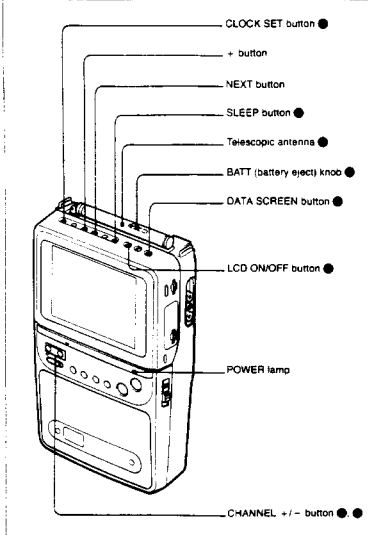
Television programs, films, video tapes and other materials may be copyrighted. Unauthorized recording of such material may be contrary to the provisions of the copyright laws.

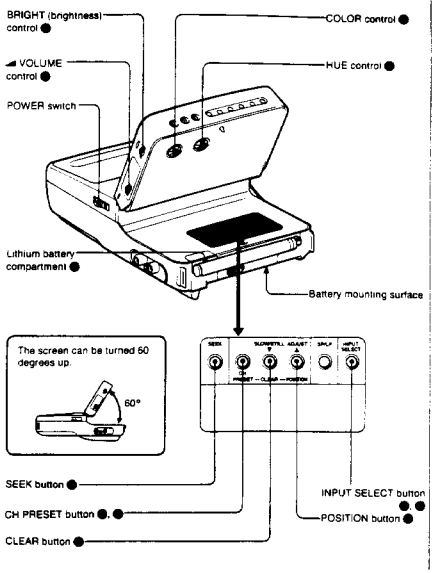
PCM recording/playback is not possible with this unit. The PCM sound recorded with another recorder cannot be played back with this unit.

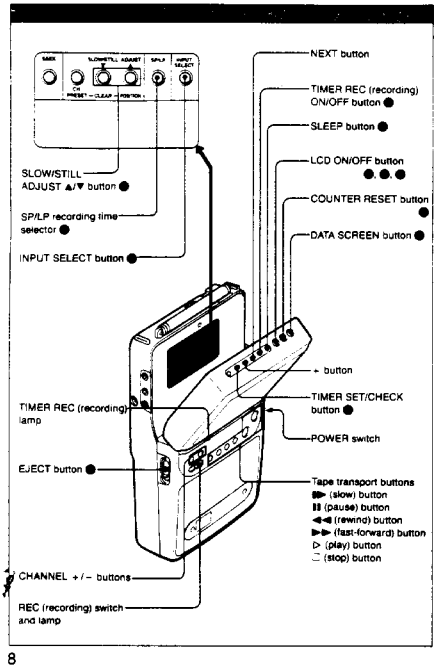
For using the recorder abroad, see page ●.

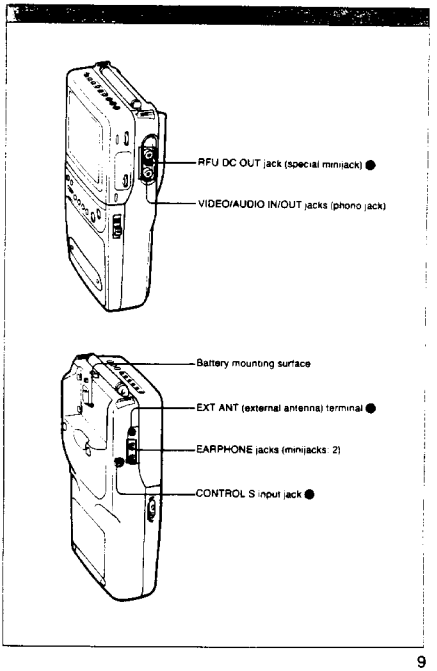
Location of Parts and Controls

Refer to the pages indicated in ● for details.








RFU DC OUT jack (special minijack) ●
VIDEO/AUDIO IN/OUT jacks (phono jack)
Battery mounting surface
EXT ANT (external antenna) terminal ●
EARPHONE jacks (minijacks: 2)
CONTROL S input jack ●

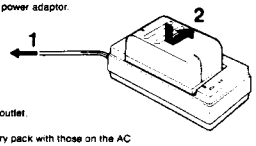
Power Sources

Place	Power Source			Page
Indoors	AC power adaptor AC-V30 (supplied)			
Outdoors	Battery pack NP-66H (supplied), NP-77H, NP-77 or NP-55	or	Battery case EBP-55 (with alkaline batteries)	
In the car	DC pack DCP-77	or	Car battery charger/ adaptor DC-V30	
	or DC pack DCP-55 (DCC-16B car battery cord supplied)			

All above accessories except the AC-V30 and the NP-66H are optional.

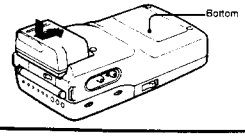
Disconnecting the power source during recording or playback may damage the inserted cassette tape.
If this is done by accident, supply the power again immediately and turn the power on.

1 First, charge the battery pack.
Use the supplied AC-V30 AC power adaptor.



1 Connect the AC-V30 to a wall outlet.
2 Install the battery pack.
Align the grooves on the battery pack with those on the AC power adaptor and slide in the battery pack to the right, as illustrated.
The POWER lamp (green) and the CHARGE lamp (orange) on the AC-V30 will light up. The charging will begin.
When the charging is completed, the CHARGE lamp goes out.
Unplug the AC power adaptor and the POWER lamp will go out.

2 Attach the battery pack to the video TV recorder.
Align the right side of the battery pack with the white line on the video TV recorder, and while pressing the battery pack, slide it as illustrated.



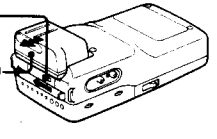
Charging time

NP-66H	NP-77H	NP-77	NP-55
100 min.	140 min.	120 min.	60 min.

(AC-V30 is used.)

- The battery pack cannot be charged when the AC power adaptor is used to operate the unit.
- An NP-66H, NP-77H, NP-77 or an NP-55 can also be charged with the BC-55 or BC-77 battery charger.

1 While sliding the BATT knob in the arrow direction,
2 Slide the battery pack as illustrated.



Battery life

A fully-charged battery pack can operate this unit as follows:

	NP-66H	NP-77H	NP-77	NP-55
Watching TV programs	105 min.	140 min.	120 min.	60 min.
Playback of VCR	90 min.	125 min.	105 min.	50 min.
TV program recording	80 min.	110 min.	90 min.	45 min.

(Approx.)

We recommend you to prepare extra battery packs that will last for a total of 2 or 3 times your planned recording time.

The "operating time" described in the catalogs and operating instructions of the video TV recorder is the time during which the unit can be used continuously indoors with a fully charged battery pack.
Fast winding or rewinding operation of the tape consumes much more battery power than normal tape transport operation. Consequently, battery life becomes shorter when fast winding or rewinding is performed frequently.

The battery life becomes shorter in a cold place.
Battery packs run out more quickly in low temperature.

Charging of the battery pack

The battery pack you have purchased is not charged. Fully charge the battery pack before use.

Recharge the battery pack when it is exhausted.
- If the operation is completed before BATTERY DOWN is indicated, it is recommended that you discharge the battery pack by playing back or recording on another tape until the BATTERY DOWN indication blinks rapidly.
- Do not recharge the battery pack before it has been discharged. Repeated charging while some battery capacity remains will reduce the battery capacity.

Notes on the battery pack

Battery pack care
- Remove the battery pack from the video TV recorder after use, and keep it in a cool place. When the battery pack is installed on a video TV recorder, a slight amount of current flows to the recorder even though the POWER switch is turned off. It causes overdischarge and shortens the battery life.
- The battery pack is always discharging — even when it is not in use. Thus, the battery should be charged before each use.

How to use the switch on the battery pack
Use this switch as a reminder for the charging condition. Slide it to the blank side when the charging is completed. Slide it to the red side when the battery has been discharged.

How many times can the battery pack be recharged?
The battery pack can be recharged more than 500 times provided that it is fully charged and exhausted at each operation.
If the BATTERY DOWN indication blinks rapidly after turning on the recorder even though a fully charged battery pack is installed, the battery pack should be replaced with a brand new one.

Charging temperature
Lower temperatures require longer charging time. The battery pack should be charged in a temperature ranging from 10°C to 30°C (5°F to 86°F).

The battery pack will be warm after charging or using.
While the battery pack is charged or used, a chemical change which generates electric energy occurs inside the battery pack. Therefore, the battery pack becomes warm.

When the charging is completed, remove the battery pack from the charger.
Within 24 hours after charging, remove the battery pack from the charger. Otherwise, overcharging may occur as a slight amount of current flows from the charger to the battery pack.

Be sure to put the battery pack in the case to carry.
If the + and − terminals are short-circuited with a metal piece, the battery will be abnormally heated. This is very dangerous. Never put an uncovered battery pack in a pocket together with a key holder, etc.

Replacing the battery

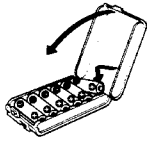
Replace the battery just when the POWER lamp changes from slow blinking to fast blinking. During recording, the BATTERY DOWN indication blinks slowly five minutes before the battery pack is discharged.
Turn off the power of the video TV recorder before replacing the battery. While replacing the battery, keep the cassette inside the cassette holder. Recording can be resumed smoothly without any picture distortion.

Fast blinking

Keeping the battery terminals clean
If the terminals are soiled, the battery life will become shorter.
When the terminals are soiled, or when the battery pack or case has not been used for a long time, repeat attaching and removing it several times. This will improve the contact of the battery pack or case and the video TV recorder.
Also, wipe the + and − terminals with a soft cloth or paper.

Using With Battery Case — BBP-55

6 size AA (R6) alkaline batteries



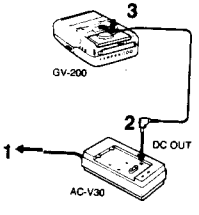
Battery life

Watching TV programs	55 min.
Playback of VCR	40 min.
TV program recording	25 min.

(Approx.)

- Attach or remove the battery case to the unit in the same way as the battery pack.
- You cannot use normal batteries. Use only alkaline batteries.
- If you use the battery case in a cold place, its operating time becomes shorter.
- When you use the battery case to operate the video TV recorder, occasionally the displays on the screen may not blink.
- If you cannot remove the cassette from the unit, replace the batteries with new ones.

1 Connect the AC power adaptor to a wall outlet.
2 Insert into the DC OUT jack.
3 Align the left side of the connecting plate with the white line on the video TV recorder, and while pressing it, slide in the direction of the ▶ mark.



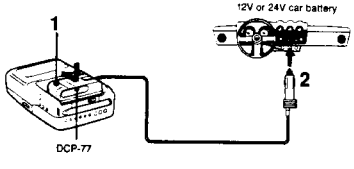
To remove the connecting plate
While sliding the BATT knob, slide out the connecting plate.

CAUTION
TO PREVENT ELECTRIC SHOCK, DO NOT USE THIS POLARIZED AC PLUG WITH AN EXTENSION CORD, RECEPTACLE OR OTHER OUTLET UNLESS THE BLADES CAN BE FULLY INSERTED TO PREVENT BLADE EXPOSURE.

- The unit is not disconnected from the AC power source as long as it is connected to the wall outlet.
- One blade of the plug is wider than the other for the purpose of safety and will fit into the wall outlet only one way. If you are unable to insert the plug fully into the outlet, contact your dealer.
- While the unit is in use, particularly during charging, keep it away from AM receivers and video equipment because it will disturb AM reception and video operation.

Notes
- Be careful not to let any metal object touch the metal projection on the battery pack or the AC power adaptor. When the battery pack is not used, keep it in its case.
- Keep the video TV recorder away from the power source. If not, noise may appear on the screen.

1 Attach to the video TV recorder.
2 Connect to the cigarette lighter socket.



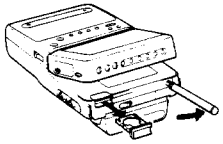
- When you use the DCP-77 or DCP-55, connect it only to the cars with negative ground 12V or 24V car battery.
- Attach or remove the DC pack in the same way as the battery pack.

Notes on the use of the GV-200 in a car
- For your safety, do not watch the TV or operate the controls while driving.
- Avoid leaving the unit in a place with very high temperature. If you do, it may cause distortion of the cabinet or malfunction of the unit.
- If you use this unit while your car is not in use, the car battery will be consumed. Avoid using this unit in such condition over 12 hours.

Setting the Clock

This unit uses a lithium battery to activate the clock or to memorize the last channel when the external power source is disconnected.

1 **Pull out the lithium battery compartment.**



2 **Install the supplied CR2032 lithium battery with the + side facing out.**

3 **Attach the compartment.**

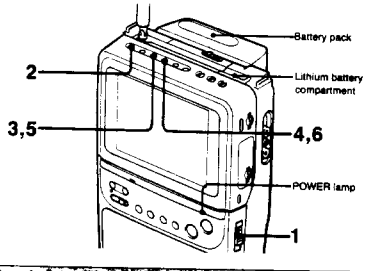
To remove the lithium battery
Press the battery upward and remove it.

Lithium battery life
Approximately 1 year in normal operation.
If the lithium battery becomes weak, the AM12:00 will appear on the screen when the DATA SCREEN button is pressed. In this case, replace the battery with a Sony CR2032 lithium battery.
Use of a battery other than Sony CR2032 may present a risk of fire or explosion.
After replacing the battery, reset the clock.

Notes on lithium battery
- Keep the lithium battery out of the reach of children.
  Should the battery be swallowed, immediately consult a doctor.
- Wipe the battery with a dry cloth to assure a good contact.
- Be sure to observe the correct polarity when installing the battery.
- Do not hold the battery with metallic tweezers, otherwise a short-circuit may occur.
- Do not break up the battery nor throw it into a fire, which might cause it to explode. Carefully dispose of the used batteries.

WARNING
Battery may explode if mistreated. Do not recharge, disassemble or dispose of in fire.

Before setting
- Make sure that the power source is connected correctly.
- Time indications are follows: PM 12:00 = noon
  AM 12:00 = midnight

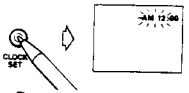


Example: Set to PM 1:15

1 **Turn on the power.**
The POWER lamp lights.

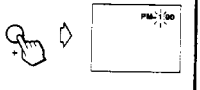
2 **Press CLOCK SET with a ball-point pen or similar object.**
The screen becomes the time setting mode.

The "hour" blinks.



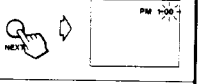
The screen becomes dark.

3 **Set the hour.**
Press repeatedly until you get the correct setting.

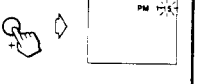


If you keep the button pressed, the indication will advance continuously.

4 **Press NEXT.**
The "minute" blinks.



5 **Set the minute.**
Press repeatedly until you get the correct setting.



If you keep the button pressed, the indication will advance continuously.

6 **Look at your watch and press NEXT when your watch and the clock are the same time.**

The clock starts.
The screen for the time setting goes out a few seconds later.

If the lithium battery is not installed and the power source is disconnected after setting the time
When DATA SCREEN is pressed and the time is displayed, "AM12:00" appears and the clock does not gain.

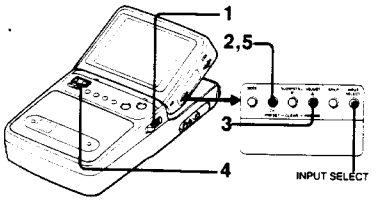
Presetting TV channels

Your receiver is capable of receiving VHF channels 2-13, UHF channels 14-69 and cable TV channels 1 (A-8), 98-99 (A-2 to A-1), 14-36 (A to W), 66-125 (W + 30 to W + 84). The channel numbers 1-99 will be display in the display window. This unit is preset at the factory to receive certain channels (See the "Preset channels"). If you want to receive other channels, you need to preset them as follows.

Preset channels

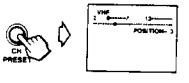
Program position	1	2-13	14-36	37-42	43	44-68	69	70-97	98	99
Corresponding channel	CATV 1	VHF 2-13	CATV 14-36	—	○	—	○	—	CATV 98	CATV 99
Number displayed	1	2-13	14-36	37-42	43	44-68	69	70-97	98	99

○ UHF channels are preset around this number

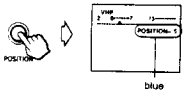


1 **Turn on the power.**
The POWER lamp lights.
When the TV program is not displayed, press INPUT SELECT.

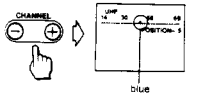
2 **Press CH PRESET.**



3 **Press POSITION and select the program position where the channel is to be memorized.**



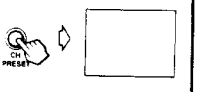
4 **Press CHANNEL – / + repeatedly and select the channel to be memorized.**
The UHF channel range is displayed after the VHF one.*



Repeat steps 3 and 4 if you want to preset other channels.

5 **Press CH PRESET.**
Presettings are completed.

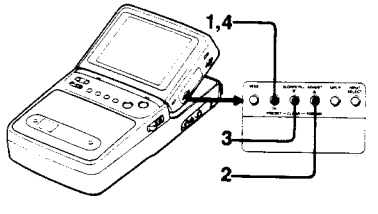
The display goes out.



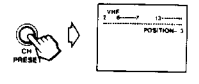
To change the order of the channel to be memorized
It is possible to preset, for example, channel 4 in the program position 2 and change the orders as you like. (However, you cannot change the numbers to be displayed because they will always correspond to the program position.) Follow the above operations.

* After the channel range is displayed, leave the unit for about 2 seconds with no operation.

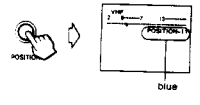
The erased program position is skipped when you press CHANNEL + / – later.



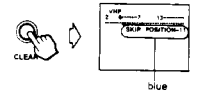
1 **Press CH PRESET.**



2 **Press POSITION and select the program position to be erased.**



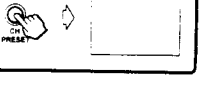
3 **Press CLEAR.**
The SKIP indication lights.



Repeat steps 2 and 3 for other program position to be erased.

4 **Press CH PRESET.**

The display goes out.



To add the erased channels again.
See the "To preset new channels" on page 22.

Frequency (MHz)	50	100	150	200	250	300	400	500	600	700	800
VHF/UHF channels	VHF 2-6			VHF 7-13				UHF 14-69			
CATV channels	14-4A		A-2 – I		J – W			W + 30 – W + 84			

When the CHANNEL + button is pressed, the above channels will be scanned from the lowest frequency to the highest in sequence. By pressing the CHANNEL – button, the channels will be scanned reversely.

Cable TV systems use letters or numbers to designate channels.
To tune in a channel, refer to this chart. If you want to receive channels W + 30 – W + 84, you need to preset them.

Number on this unit	1	98	99	14	15	16	17	18	19	20	21	22
Corresponding CATV channel	A–8	A–2	A–1	A	B	C	D	E	F	G	H	I

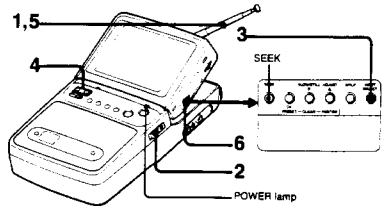
23	24	25	26	27	28	29	30	31	32	33	34	35	36		
J	K	L	M	N	O	P	Q	R	S	T	U	V	W	W+30	W+84

Check with your local cable TV company for more complete information on the available channels.

• The designation of the cable TV channels conforms to the EIA/NCTA recommendation.

Note
Pay cable TV systems use scrambled or encoded signals and require special converters (decoders) in addition to the normal cable connections.

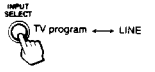
Watching TV Programs



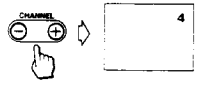
1 Pull out the antenna fully.
When you have connected an external antenna, be sure to fold the telescopic antenna.

2 Turn the power on.
The POWER lamp lights.

3 When the TV program is not displayed, press INPUT SELECT.



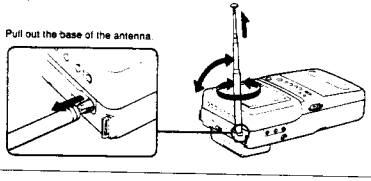
4 Select the desired channel.
Press + for higher-numbered channels and – for lower-numbered channels. The channels will appear in numerical sequence. Press CHANNEL +/– repeatedly until you get the desired channel on the screen.



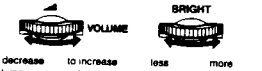
To be continued

5 Adjust the antenna for the best reception.

Pull out the base of the antenna.



6 Adjust the volume and brightness.

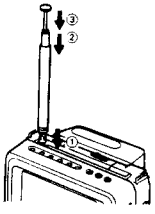


to decrease volume	to increase volume	less brightness	more brightness

To turn off the TV

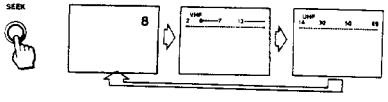
The lamp goes out.

After using
Slide in the base of the telescopic antenna first, then the center and the point.

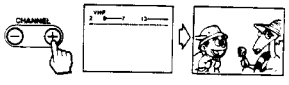


When you do not know the channel of the TV program you want to view or when using the unit in a moving car, search the program as follows.

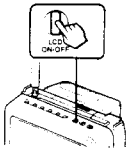
1 Press SEEK.
For VHF channels, press **once.**
For UHF channels, press **twice.**
To return to the previous channel, press again.



2 Press CHANNEL + / – and select the program.
After selecting the channel, the channel range display goes out after a few seconds.



It is recommended that you clear the screen when you view the playback picture of this recorder with another TV or monitor. Press LCD ON/OFF. Battery life will last longer if you use the unit with the picture turned off.
To display the picture on this unit, press LCD ON/OFF again.

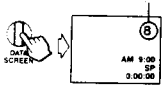


Note
When no picture is displayed, if the sound is set to a low volume, or the headphones are connected, the unit seems to be turned off though it is not. Be sure to turn off the unit with the POWER switch when it is not in use.

To display the channel you are watching

Press DATA SCREEN.

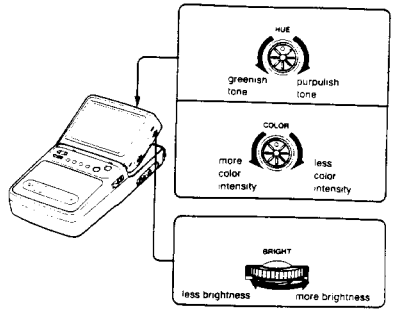
To clear the screen, press DATA SCREEN again.
When SEEK is pressed, the VHF or UHF channel range is displayed instead of the channel number.
The display is cleared a few seconds after.



"Last channel" memory function

- While you are watching the TV (the lithium battery is installed), if the power source is disconnected or the battery pack becomes exhausted, the unit turns off with the last channel being memorized.
  When you turn on the unit again, the last channel will appear on the screen.
- The same thing occurs when the TV signal is cut off, for example when you go through a tunnel while driving a car.
- If the lithium battery becomes exhausted but the power source is connected, the last channel being memorized.

Adjust the controls to your preference.



To Set the Unit to Turn off Automatically — SLEEP Timer

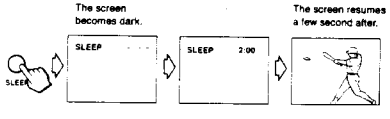
You can set the unit to turn off automatically after a certain time between 30 minutes and 5 hours while viewing a TV program or video playback, or while recording.
Each time you press the SLEEP button, the display changes by 30 minutes.

--:-- → 0:30 → 1:00 → 1:30 → 2:00 → 2:30 → 3:00 → 3:30 → 4:00 → 4:30 → 5:00 → --:--

Example: To turn off the TV after 2 hours

1 **Make sure the clock is set correctly (page 18).**

2 **Press SLEEP while watching the TV, etc.**



After two hours, the TV is turned off automatically.

The operation will be the same for the tape playback and recording.
The tape will stop running after the selected time interval.

To check the remaining time

Press SLEEP once.

The remaining time is displayed.
The indication is cleared after a few seconds.

Note
When you use the unit with rechargeable batteries, the unit may be turned off before the selected time because the batteries are exhausted.

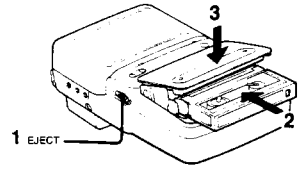
To cancel the SLEEP timer

Press SLEEP repeatedly until you have the "--:--" display.

You can also stop the SLEEP timer by turning off the unit with the POWER switch.

Inserting the Cassette

Make sure that the power source is connected to the unit.



1 Open the cassette holder with the EJECT button.

While pressing, slide to the right.

2 Insert the cassette with the window side up.

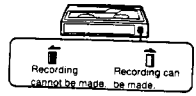
3 Close the cassette holder.

When you slide the EJECT button, the power will be supplied and the cassette holder will be opened even if the power is turned off. When the cassette holder opens, the power will be turned off automatically. Slide POWER if you want to continue the operation after closing the cassette holder.

To eject a cassette
Use the EJECT button. Make sure the tape is not running.

Note
Do not open the cassette holder while the unit is in the vertical position. If you do, the cassette may fall out of the holder and the cassette can be damaged.

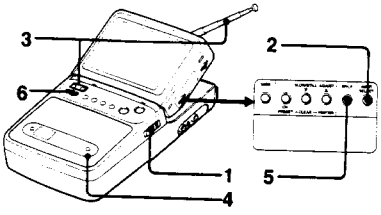
When a new recording is made on a previously recorded tape, the previous recording is automatically erased. To protect a recording, slide the safety tab out to cover the opening.



Notes
- When opening and closing the cassette holder, do not push the cover of the holder forcibly.
- When you have made a recording with this unit on a tape from its beginning, and if you play back this tape with another VCR, the beginning of the tape may not be played back. Also, by using the same tape for recording, the previously recorded pictures can remain although you record the new pictures.
  To avoid these cases, advance the tape for about 15 seconds before recording with this unit.
- Store cassettes in their cases when they are not to be used and keep them in an upright position to prevent intrusion of dust and uneven winding.
- Always insert the cassette in the right position.
- Never insert anything in the small holes on the rear of the cassette.

Recording TV Programs

For better picture and sound quality, we recommend you connect an external antenna. (See page 48.)



1 Turn on the power.
The POWER lamp lights.

2 When the TV program is not displayed, press INPUT SELECT.

3 Select the desired TV channel. (See page 27.)
Adjust the telescopic antenna for the best position. (See page 28.)

4 Insert the cassette. (See page 34).

5 Select the recording mode, SP or LP. (See page 38.)
The recording time of a cassette in the LP mode is twice as long as that in the SP mode.

6 Slide REC to the right.
Recording starts.

To stop recording for a moment
Press ❚❚.

To resume recording
Press ❚❚ again.
(The pause mode will be released after about 5 minutes to protect the video heads and recording will stop.)

To stop recording
Press ■.

When the tape is recorded to the end

The tape stops.
The unit is not turned off.

About the recorded sound

The VOLUME control setting has no effect on the recording level.

Changing the channel during recording

Set the unit in the recording pause mode and then select another channel.
You cannot watch another program while recording.

When recording from the beginning of the tape

Run the video TV recorder for about 15 seconds at the beginning of a cassette before recording. It will avoid missing the starting point during playback on another video cassette recorder.

Two tape speeds can be selected with the SP/LP selector.
The recording time in the LP mode is twice as long as that in the SP mode. For better picture and sound, recording in the SP mode is recommended. During playback, the mode in which the tape was recorded is selected automatically.

Cassettes and their recording time

There are two formats for 8 mm video recording, NTSC and PAL. Video cassette tapes are made to correspond to the respective formats. Use NTSC format cassette tapes for this unit. You will find "P8" on the package of the cassette.
In some countries, however, only PAL format cassette tapes with "P5" on the packages are available. If a PAL format cassette is used with this unit, the actual recording time may differ from the standard recording time indicated on the cassette.

Note
If you record with this unit on a tape which has been recorded in the PCM mode, and if you play back this tape by using a VCR with PCM function, occasionally the sound may be cut off. In this case, set the audio monitor switch of the VCR to the standard position.

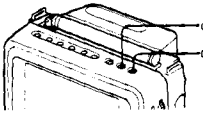
To stop recording automatically after a certain time — Quick timer

Press the SLEEP button during recording. You can leave the unit function when you go to bed or when you go out, etc.
The unit will be turned off automatically at the preset time. For operation, see page 32.

Are you having trouble?

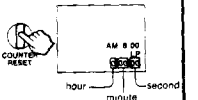
Symptom	Possible cause	Correction
"CASSETTE" indication is displayed when you slide the REC switch.	The safety tab on the cassette is slid out.	Slide the tab in or use a new cassette.
	The tape is at its end.	Rewind the tape or use a new cassette.
	No cassette is inserted.	Insert a cassette.

During recording or playback, the digits on the counter indicate the actual recording or playback time.
By noting the counter reading at a particular point, you can easily find that point later by referring to the tape counter.



1 Press DATA SCREEN so that the counter is displayed.

2 During recording or playback, press COUNTER RESET at the point you later want to locate.



Notes
- The counter reading and the point of the tape may not correspond exactly. Use the counter only as a guide.
- There will be a time lag of several seconds on the counter reading after repeated fast-forward and rewind operations.
- There will be also a time lag of several seconds when the tape recorded in LP or SP modes mixed or the tape having a blank portion between the recorded portions is played back.

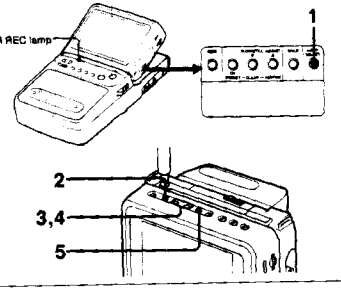
To Start Recording at the Desired Time

A TV program within 24 hours can be preset for automatic recording.
For better recording of picture and sound, using an external antenna is recommended. See page 48.

Preparing the timer

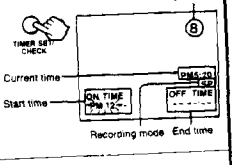
- Make sure that the power is supplied. Is the battery pack fully charged? (For long recording, using the AC power source is recommended.)
- Set the clock (Page 18).
- Insert a cassette (Page 34). Make sure that the safety tab is slid in.
- Select the recording mode, SP or LP.

Example: To record the program from 8:30 pm to 9:45 pm



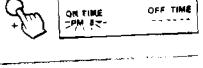
1 Press INPUT SELECT to select the recording source.
For TV program recording, select the desired channel.

2 Press TIMER SET/CHECK.
The screen becomes dark.

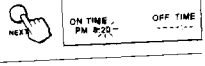


3 Set the recording start time.

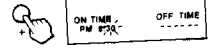
1 Set the hour with the + button.
Each time you press the + button, the hour indication increases one by one.
If you keep the button pressed, the indication will increase continuously.



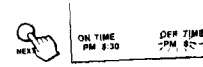
2 Press NEXT.



3 Set the minutes with the + button.
Each time you press the + button, the minutes indication increases one by one.
If you keep the button pressed, the indication will increase continuously.



4 Press NEXT.

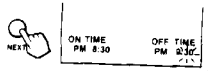


To be continued

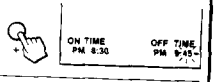
4 Press the recording end time.

1 Set the hour with the + button.

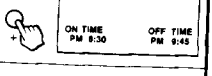
2 Press NEXT.



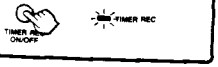
3 Set the minute with the + button.



4 Press NEXT.



5 Press TIMER REC ON/OFF.



- The power is turned off and the TIMER REC lamp lights (timer standby mode). The recording starts automatically at the preset start time and the power is turned off at the preset end time.
- If the safety tab on the cassette is slid out or if no cassette is inserted when you press the TIMER REC ON/OFF button, "CASSETTE" indication will appear.

Note

Be sure to press the TIMER REC ON/OFF button only after you have finished the timer settings. If you press it while presetting, the power turns off at this point and the preset program is erased.

During timer recording, both picture and sound will be muted. To listen to the sound and watch the picture, press LCD ON/OFF.
When the TIMER REC lamp is lit, any buttons except for the TIMER REC ON/OFF button and the TIMER SET/CHECK button do not function.

To stop the timer recording

Press TIMER REC ON/OFF again.
The TIMER REC lamp goes out.

To correct the timer setting during setting

Turn off the power and on again.
Repeat the setting from the step 2.

To check the setting

Press TIMER SET/CHECK while the TIMER REC lamp is lit.
The power is turned on and the turn-on and turn-off times will be displayed for a few seconds.

To correct the timer setting after completing the setting

Press TIMER REC ON/OFF to cancel the timer recording mode, then turn the unit on and set the timer again.

To set the timer while the tape is running

You can set the timer recording start and end times during playback or recording.
After playing back or recording, set the recording mode (SP/LP) and channel and then press TIMER REC ON/OFF.

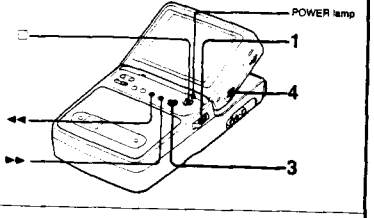
If a power interruption occurs when the unit is connected to the AC power source

Recording stops. Recording starts again after the power is fed. When a power interruption occurs during the timer recording standby mode and the power is fed again, the timer settings are memorized. (When the lithium battery is installed.)

If the turn-on and turn-off times are set the same

You can record to the end of the tape.
If the tape ends before the turn-off time, recording will stop and the power will be turned off.

Playing Back the Recorded Tapes

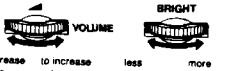


1 Turn the power on.
The POWER lamp lights up.

2 Insert a recorded tape (page 34).

3 Press ▷ to start playback.

4 Adjust the volume and brightness.



to decrease volume — to increase volume
less brightness — more brightness

To stop playback Press □.	**When the tape is played to the end** The tape stops. The unit is not turned off.
To advance the tape rapidly Press ▷▷.	**To rewind the tape** Press ◁◁.

To rewind the tape and play it back automatically — Auto play

Keep ◁◁ pressed and press ▷.
The AUTO PLAY indication appears.

To clear the screen

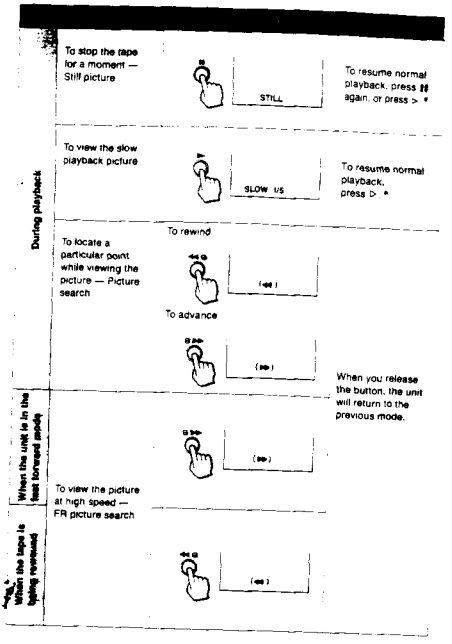
Press LCD ON/OFF.

To adjust the picture

Adjust the BRIGHT, COLOR, and HUE controls (page 31).

To stop the playback at the desired time

Use the SLEEP function.
You can have the unit turned off at the preset time. See page 32.


During playback
To stop the tape for a moment — Still picture
STILL
To resume normal playback, press ▮▮ again, or press ▷
To view the slow playback picture
SLOW
To resume normal playback, press ▷
To rewind
To locate a particular point while viewing the picture — Picture search
To advance
When you release the button, the unit will return to the previous mode.
When the unit is in the fast forward mode
To view the picture at high speed — FR picture search
When the tape is being rewound

If streaks appear in the still and slow playback mode
Adjust the picture.

1 Play back the slow motion picture.
2 Press SLOW/STILL ADJUST so that the streaks do not appear.

To adjust the upper portion of the picture, press ▲.
To adjust the lower portion of the picture, press ▼.
The still picture will also be adjusted at the same time.

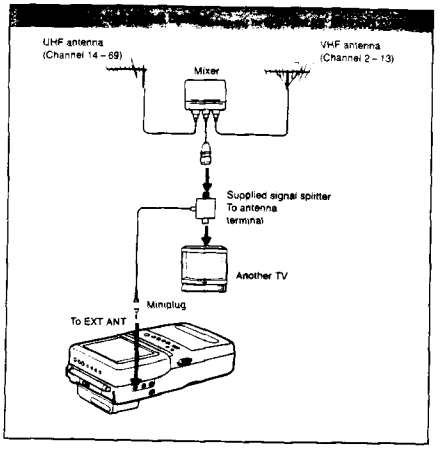
When the playback picture is viewed on another TV or monitor
The horizontal bands appear in the still, slow, picture search and FR picture search modes. **Before** playing back the tape in these modes, press LCD ON/OFF and clear the screen on this unit, and the horizontal bands are reduced.

About the crystal-clear still/slow and picture search on LCD
Noiseless picture can be viewed in the still, slow and picture search mode, due to the feature of the liquid crystal.

***Notes on still and slow playback pictures**
- The still picture will automatically be released after about 5 minutes and will return to normal playback.
- The slow playback picture will be released after about 1 minute and will return to normal playback. After it returns, the ▮▶ button will not function for about 5 seconds.

Connecting an Outdoor Antenna

If you cannot obtain satisfactory reception with an indoor antenna, or when recording TV programs, use an outdoor antenna.



Note to CATV system installer:
This reminder is provided to call the CATV system installer's attention to Article 820-22 of the NEC that provides guidelines for proper grounding and, in particular, specifies that the cable ground shall be connected to the grounding system of the building, as close to the point of cable entry as practical.

The VIDEO/AUDIO IN/OUT jacks are automatically set to the input or output jacks according to the operation condition of the unit.

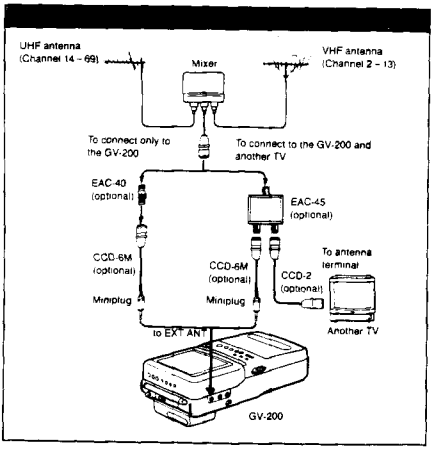
Refer the following diagram.

Mode selected with INPUT SELECT	Stop or Recording mode	Playback mode
TUNER (TV program)	output	output
LINE*	input	output

*When the LINE mode is selected with INPUT SELECT, the INPUT or OUTPUT indication appears with LINE.

Note
When the LINE OUT jacks of another equipment is connected to VIDEO/AUDIO of this unit and signals are output from the jacks of this unit to another equipment, the picture of another equipment may be disturbed.
Turn off the power of this unit or disconnect the connection between this unit and another equipment.

Connecting an Outdoor Antenna

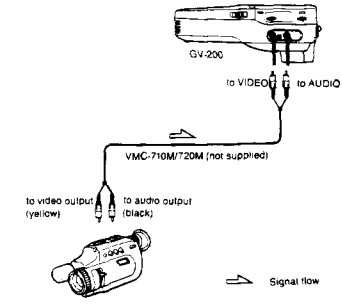


Notes

- Before connecting the antennas, turn off the unit.
- Make connections firmly. A loose connection may cause a distorted picture.
- When using the unit in a car, use the optional VCA-3W or VCA-4E car antenna, etc. For details, refer to the instruction manual of the car antenna.

Using as a Monitor of the 8mm Video Camera Recorder

With the following connection, you can view pictures being recorded by the connected video camera recorder. Also you can view the playback pictures from the video camera recorder on this unit.



Operation

1 **Turn on the power.**
The POWER lamp lights.

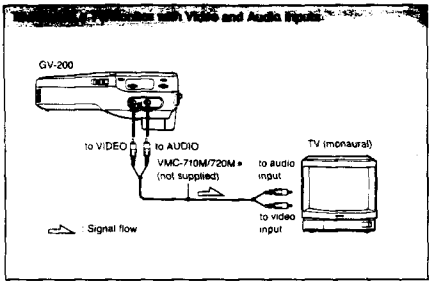
2 **Press INPUT SELECT so that the LINE** indication appears.

3 **Operate the camcorder.**

To Connect Another TV or Color Monitor

If you connect this unit to another TV or color monitor, you can view the playback pictures or the selected TV program on a larger screen.

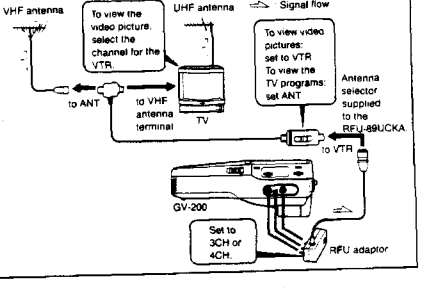
[illegible] with Video and Audio Inputs



Press LCD ON/OFF on the GV-200 so that the screen is cleared.

* When the TV to be connected has stereo audio input, use a commercially available connecting cord like a Sony VMC-810MS/920MS connecting cord.

Use the optional RFU-89UCKA RFU kit.



Press LCD ON/OFF on the GV-200 so that the screen is cleared.

About the optional RFU-89UCKA RFU kit

The RFU-89UCKA includes the following accessories.

— RFU adaptor (1)
— Antenna selector (1)
— Antenna selector adaptor (1)
If the VHF input terminal of your TV is a 300-ohm twin-lead plug, use the antenna selector adaptor.

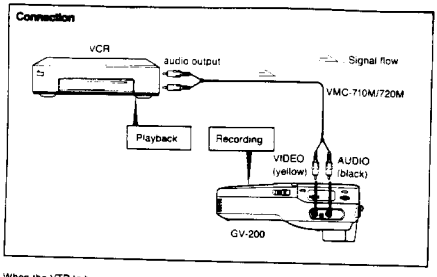
Channel for VCR

To view the playback picture of this unit, set the antenna selector of the RFU kit to 3 or 4 channel whichever channel is not active in your area and select the same channel on the connected TV.

Tape Editing

Tapes can be edited when another VCR (8 mm, Hi8 or VHS format) equipped with video/audio inputs is connected.

Connection



When the VTR to be connected has stereo audio output, use a commercially available connecting cord like a Sony VMC-910MS/920MS connecting cord.

Operation

1 Turn on the power.
The power lamp lights.

2 Insert the cassette.

3 Press INPUT SELECT so that the LINE indicator appears.

4 Select the recording mode (SP/LP).

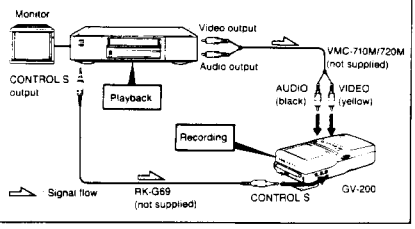
5 Play back the tape on another VCR and press II at the point you want to start playing back.

6 Set this unit in the recording pause mode.

7 Release II on both units.

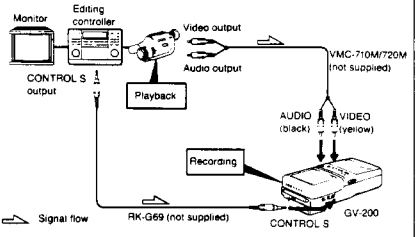
8 After completing the editing, press II on both unit.

Connect the CONTROL S input jack on this unit and CONTROL S output jack on another equipment.
The playback start, recording start and pause of both units can be operated simultaneously.

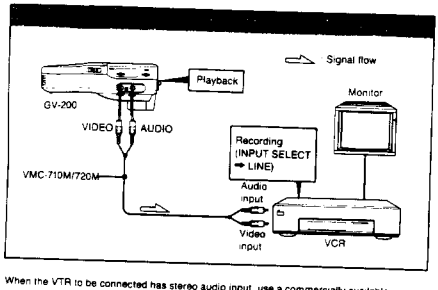


To edit with the editing controller

The recorder and player can be operated easily by operating the editing controller



Tape Editing



When the VTR to be connected has stereo audio input, use a commercially available connecting cord like a Sony VMC-910MS/920MS connecting cord.

Precautions

- Operate the unit on 6.0 V (battery pack)/6.5 V (car battery)/7.5 V (AC power adaptor)/9 V (battery case)
- For DC or AC operation, use the accessories recommended in this manual.
- Should any solid object or liquid fall into the cabinet, unplug the unit and have it checked by qualified personnel before operating it any further.
- Avoid rough handling or mechanical shock to the unit.
- Do not apply excessive force to the LCD.
- Remove and store video cassettes after recording or playback.
- Do not wrap up the unit and operate it because heat may build up internally.
- Avoid using and storing the recorder in the following locations.
  - Locations susceptible to vibration.
  - Locations exposed to strong magnetic fields.
  - Locations near TV or radio transmitters where strong radio waves are generated.
- Do not put the unit on the sand.

Care

- When the unit will not be used for a long period of time, periodically turn on the power, operate the recorder and play back a tape for about three minutes.
- Clean the recorder body with a dry, soft cloth, or a soft cloth lightly moistened with a mild detergent solution. Do not use any type of solvent which may damage the finish.

Maintenance

To ensure a clear picture, clean the video heads periodically.
If playback pictures are noisy or hardly visible, the video heads may be contaminated. In this case, clean the video heads with the Sony V8-25CLH cleaning cassette (not supplied) according to the instructions.

Caution
Do not use commercially available wet-type cleaning cassettes. They may damage the video heads.

Note
If the V8-25CLH cleaning cassette is not available in your area, consult your Sony service facility.

If the Video Head is Damaged

When playback pictures are not clear even after using the cleaning cassette, the video head may be damaged. In this case, the video head needs to be replaced with a new one. Consult your Sony service facility for replacing the video head.

On the built-in lighting system

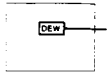
A built-in lighting system is assembled inside the liquid crystal screen of this unit. The life of the small fluorescent lamp used for this built-in lighting system runs out over a period of use. If the lamp becomes dimmer or goes off immediately after you turn it on, even with new batteries, replace the lamp with a new one. To replace the lamp, consult the dealer where you purchased the unit, or a Sony service facility. The expected life of the small fluorescent lamp is about three years when the unit is used for an hour a day. When you use the unit in a cold environment, the fluorescent lamp will be dimmer at first. As soon as the temperature of the lamp rises, it will regain its original brightness.

On the LCD (liquid crystal panel)

- Do not press hard on the surface of the liquid crystal panel. Doing so may cause the screen to become uneven or lead to malfunctioning of the liquid crystal panel.
- Do not use this unit in an environment where the temperature is below 0°C (32°F) or above 40°C (104°F).
- If you use this unit in a cold environment, the image may sometimes appear to be trailing. However, this is not due to a malfunction.
- Constant bright points of light (red, blue, and green) may sometimes appear on the screen. However, this is not due to a malfunction.

Notes on Moisture Condensation

If the unit is brought directly from a cold to a warm location, moisture may condense inside the unit. In this condition, the tape may adhere to the head drum and be damaged or the unit may not operate correctly. To prevent possible damage under these circumstances, the unit is furnished with moisture sensors.



If moisture is present inside the unit, the DEW indication flashes on the screen when you press a tape transport button.
Only the EJECT button functions at this time. (Watching TV is possible.)

↓

Eject the cassette and turn off the unit and leave it with the cassette holder open at least for one hour.

↓

The unit can be used again if the DEW indication does not appear when a tape transport button is pressed.

Using Your Recorder Abroad

If you prepare fully charged battery packs and the supplied AC power adaptor (which can be used in all areas with the local power supply of 100 V – 240 V) you can use your recorder in any country.

Each country has special TV color broadcast and electricity systems.
This unit is designed to record and play back using the NTSC color video signals. Recording and playback of video sources based on other color systems cannot be guaranteed.

NTSC system countries
Bahama Islands, Canada, Central America, Japan, Korea, Mexico, Taiwan, the Phillipines, U.S.A., etc.

Specifications

Video recording system	Rotary two-head helical scanning FM system
Audio recording system	Rotary head, FM system
Video signal	EIA standard, NTSC color
Usable cassettes	8 mm video format cassettes
Tape speed	SP: approx. 1.43 cm/sec. LP: approx. 0.72 cm/sec.
Recording time	SP mode: 2 hours LP mode: 4 hours (with Sony P6-120 cassette)
Playback time	SP mode: 2 hours LP mode: 4 hours (with Sony P6-120 cassette)
Fast forward/rewinding time	Approx. 6 minutes (with Sony P6-120 cassette)

LCD section

Picture	4 inches measured diagonally 8.2 × 6.2 cm (3 1/4 × 2 1/2 inches)
On-screen display	TN LCD/TFT active matrix method Total picture-element number: 112,086 (479 × 234)

Tuner section

Channel coverage	VHF: 2 – 13 channels UHF: 14 – 69 channels Cable TV channels: 1, 14 – 36, 66 – 94, 98, 99, 100 – 125
Antenna input	75-ohm minijack for VHF/UHF

Inputs/outputs

VIDEO/AUDIO IN/OUT	Selectable automatically due to the operation
Video input	Phono jack, 1 Vp-p, 75 ohms, unbalanced, sync negative
Video output	Phono jack, 1 Vp-p, 75 ohms, unbalanced, sync negative
Audio input	Phono jack, – 7.5 dBs (0 dBs = 0.775 Vrms), input impedance more than 47 kilohms
Audio output	Phono jack, – 7.5 dBs (330 mV) at load impedance 47 kilohms, output impedance less than 10 kilohms
Speakers	8 ohms, 100 mW
Earphone	Minijack, 8 ohms × 2
CONTROL S	Minijack

Specifications

Clock	Crystal lock
Time indication	12-hour cycle
Timer setting	Only for recording, 1 event/24 hours

General

Power requirements	On battery mounting surface 6.0 V (battery pack)/6.5 V (car battery)/7.5 V (AC power adaptor)/ 9 V (battery case)
Power consumption	6.5 W (for continuous playback)
Operating temperature	0°C to 40°C (32°F to 104°F)
Storage temperature	– 20°C to + 60°C (– 4°F to 140°F)
Dimensions	129 × 71 × 226 mm (w/h/d) (5 1/8 × 2 7/8 × 9 inches)
Weight	Approx. 1.1 kg (2 lb 7 oz) not incl. battery pack
Accessories supplied	Earphones (1) Signal splitter (1) Carrying case (1) Battery pack NP-66H (1) AC power adaptor AC-V30 (1) Lithium battery (1)

AC-V30

Power consumption	20 W
Power requirements	100 – 240 V AC, 50/60 Hz
Output voltage	DC OUT: 7.5 V, 1.6 A in operating mode Battery charge terminal: 10 V, 1.3 A in charge mode
Operating temperature	0°C to 40°C (32°F to 104°F)
Storage temperature	– 20°C to + 60°C (– 4°F to + 140°F)
Dimensions	Approx. 67 × 39 × 138 mm (w/h/d) (2 5/8 × 1 5/8 × 5 1/2 inches) including projecting parts and controls
Weight	Approx. 310 g (11 oz)

Design and specifications subject to change without notice.

List of Recommended Accessories

		Page
Battery pack	NP-66H, NP-77H, NP-77 or NP-55	●
Battery charger	BC-77	–
DC pack	DCP-77	●
Antenna connector	EAC-40	●
Signal splitter	EAC-45	●
Antenna cord	CCD-5M	●
	CCD-2	●
Car antenna	VCA-3W	–
	VCA-4E	–
Car battery charger	DC-V30	●
Connecting cord	VMC-910MS/920MS (1 m/2 m)	–
	VMC-710M/720M (1 m/2 m)	●
Video Walkman hood	VCV-GV300	–
Car connecting pack (connect to the AUDIO OUT terminal so that you can listen to the sound with the car stereo)	CPA-2	–
RFU adaptor kit	RFU-89UCKA	●
Cleaning	V8-25CLH	●

Troubleshooting

If you think have a problem, double-check before calling the serviceman. You may have overlooked something relatively simple!

Power	The unit is not operable even if the POWER switch is turned on.	• No battery pack is attached. • The battery pack is exhausted. → Charge it. (page 11). • AC power adaptor or car battery cord is disconnected.
	Power turns off automatically during operation.	• The battery pack is exhausted. • The SLEEP timer has been set.
	The battery pack is quickly discharged.	• The ambient temperature is too low. • The battery pack has not been charged fully.
Clock	The clock blinks showing "AM 12:00".	If the lithium battery has been changed, reset the clock (page 20), and if necessary, reset the timer.
Recording and playback	The playback picture is not clear.	• The video heads may be contaminated. Clean the heads using the Sony V8-25CLH cleaning cassette (optional). For details on cleaning, refer to the instructions furnished with the cleaning cassette. • The video heads may be damaged.
	During recording, the picture is not clear.	TV signal is too weak. Adjust the indoor antenna or connect an external antenna.
	Recording cannot be made.	• The safety tab on the cassette is slid out. • Moisture condensation has occured. • The tape is at its end. • The cassette is not inserted.
	The tape does not run even if the tape transport button is pressed.	• Timer setting has been made. Press the TIMER REC ON/OFF button and turn on the unit again. • Moisture condensation has occured.
	The cassette cannot be ejected.	• No power is supplied to the unit. • The battery pack is exhausted. Use the charged battery. (page 11)

	The screen is cleared.	LCD ON/OFF button has been pressed. Press it again.
	Both picture and sound are muted.	The unit is in the timer recording mode. Press LCD ON/OFF.
	Picture appears but no sound.	• Adjust the VOLUME control. • Disconnect the earphone.
	No color.	Adjust COLOR. (page 31).
	Snow and noise appear.	Check the external antenna.
TV	Dotted lines or stripes	This is often caused by local interference (e.g. cars, neon signs, hair dryers, etc.) Adjust antenna for minimum interference.
	Double images or ghosts	Reflections from nearby mountains or buildings often cause this problem. A highly directional antenna may improve the picture.
Timer recording	The timer setting display does not appear.	Set the clock (page 20).
	A timer recording has not been made.	• The safety tab on the cassette was slid out. (page 35) • The tape was not long enough. • The TIMER REC ON/OFF button has not been pressed. • The clock was not set correctly. • The battery pack was exhausted. • There has been a power interruption (for AC operation). • Moisture condensation has occured. (page 59)

On Screen Display

The following indicators show the operation or caution.

Indicator	Meaning (page)	Indicator	Meaning (page)
8	Channel	BATTERY DOWN	Battery is exhausted. (●)
AM 8:30 LP 0:00:24	Current time Recording mode Counter	DEW	Moisture condensation (●)
PLAY	(PLAY/▶▶/◀◀/ /▶▶I/I◀◀/ REC PAUSE/ SLOW ▽/△ STILL/REC) Tape transport	LINE	Signal of VIDEO/ AUDIO jacks (●)
CASSETTE	Caution for the cassette (●)		

Quick Reference on Timer Setting

To stop the timer recording

Press TIMER REC ON/OFF again.

To check the setting

Press TIMER SET/CHECK while the TIMER REC lamp is lit. The power is turned on and the turn-on and the turn-off times will be displayed.

If you have made a mistake in timer setting

Press TIMER REC ON/OFF to cancel the timer recording, then turn the unit on and set the timer again.

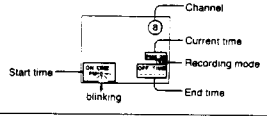
To monitor the sound and picture being recorded

Press LCD ON/OFF.

Quick Reference on Timer Setting

Refer to page 40 of this manual for details.

1 **Press TIMER SET/CHECK.**
The screen becomes dark.



2 **Set the hour.**

3 **Set the minute.**

4 **Set the hour.**

5 **Set the minute.**

6 **Press TIMER REC ON/OFF.**

Sony Corporation Printed in Japan